

National Weather Service Weather Forecast Office Products

Rick Smith

Warning Coordination Meteorologist
National Weather Service
Norman Forecast Office



National Weather Service Weather Forecast Office Information Services

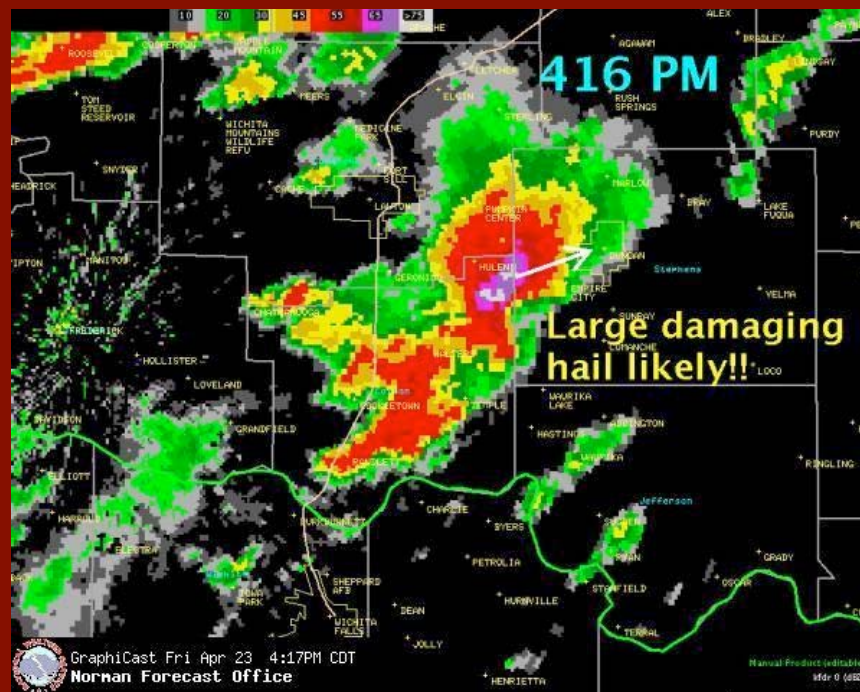
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Information is not Products

- The WFO's commodity is information
- Information = data + EXPERTISE



Sent: Thursday,
May 08, 2003 2:00
PM

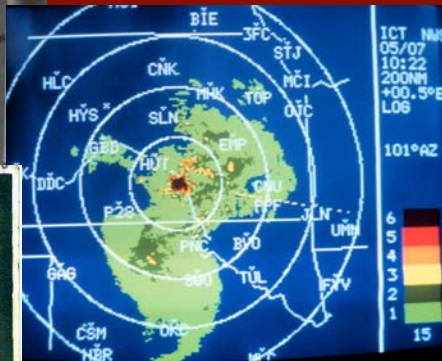
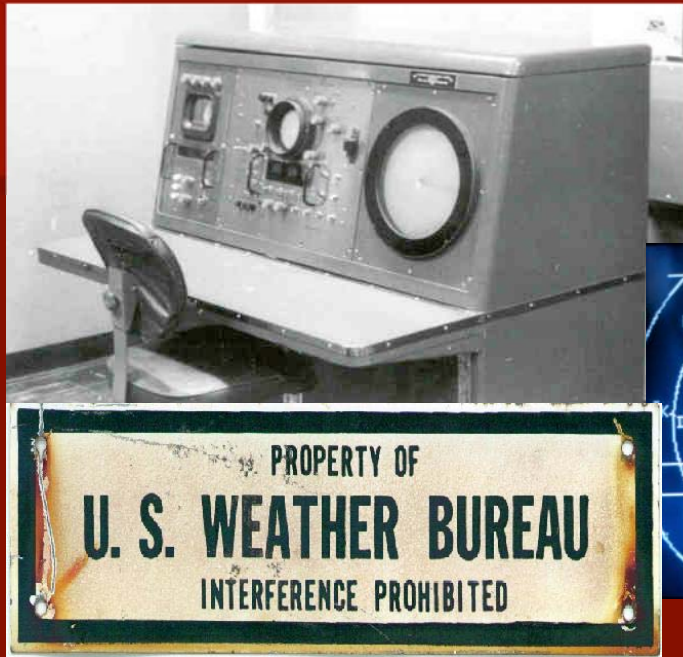
There will be a
live severe
weather briefing
direct from the
NWS forecast
office in Norman.

The briefing will
be broadcast on
all ten Weather
Radio transmitters
served by the
Norman Office...

Information Gap

■ NWS in the PAST

- Products and schedules drove the flow of information
- We did not have ways to tell you everything we know



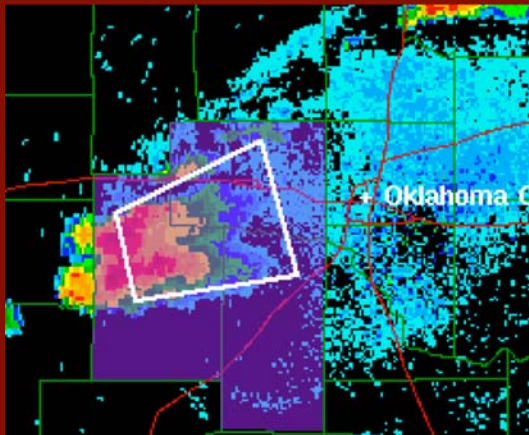
Changing the way we think

■ Vision for the FUTURE

- Provide all the weather information, all the time, updated as needed
- User needs drive the information and the format

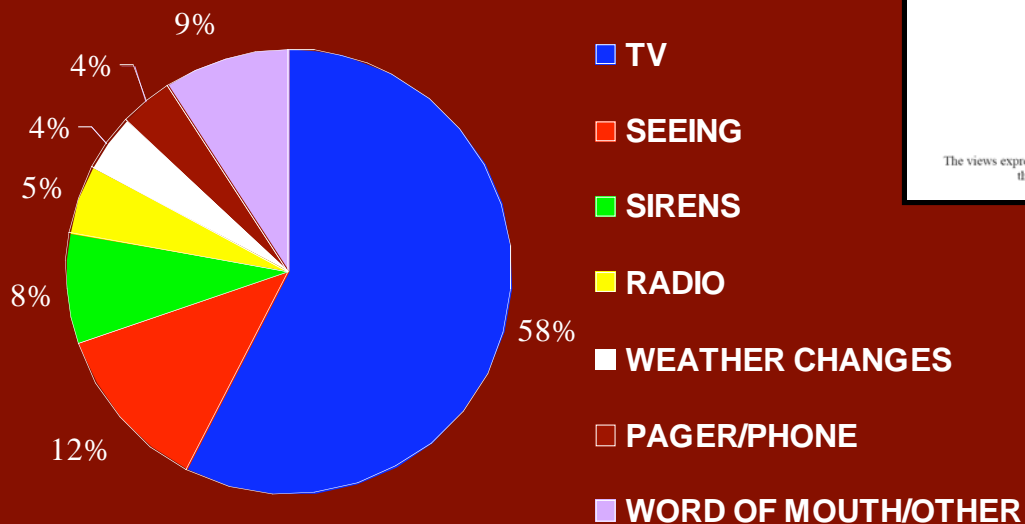
...URGENT...
STRONG CONVERGENCE
SIGNATURE WITH RFD
AND INFLOW NOW
MOVING INTO
SOUTHWEST METRO
WEST OF MOORE.

RADAR TRENDS AND
SPOTTER REPORTS POINT
TOWARD VERY HIGH
TORNADO POTENTIAL...



How people get weather information

- Post-disaster surveys indicate that most people get their critical weather information from local television



An Analysis of the September 20, 2002, Indianapolis Tornado: Public Response to a Tornado Warning and Damage Assessment Difficulties

Surviving the Storm: Sheltering in the May 2003 Tornadoes in Moore, Oklahoma

Public Response to Tornado Warnings: A Comparative Study of the May 4, 2003, Tornadoes in Kansas, Missouri, and Tennessee

By

Bimal Kanti Paul,
Vicki Tinnon Brock,
Shane Csiki,
and
Lori Emerson

2003

QUICK RESPONSE RESEARCH REPORT #165



The views expressed in this report are those of the authors and not necessarily those of the Natural Hazards Center or the University of Colorado.

Getting the word out

- Acknowledgement that the **main conduits** for critical weather information are through the **broadcast media** and **emergency management**
- WFO information should be geared toward those partners



Traditional WFO Severe Weather Products

- Hazardous Weather Outlook
- Short Term Forecast
- Special Weather Statement
 - Significant Weather Advisory
- Severe Thunderstorm Warning
- Tornado Warning
- Severe Weather Statement
- Local Storm Report

Things a WFO should also be doing...

Graphics

Warning Decision Updates

Significant Weather Advisories

Amateur Radio

800 MHz Radio

Telephone Conference Calls

E-Mail

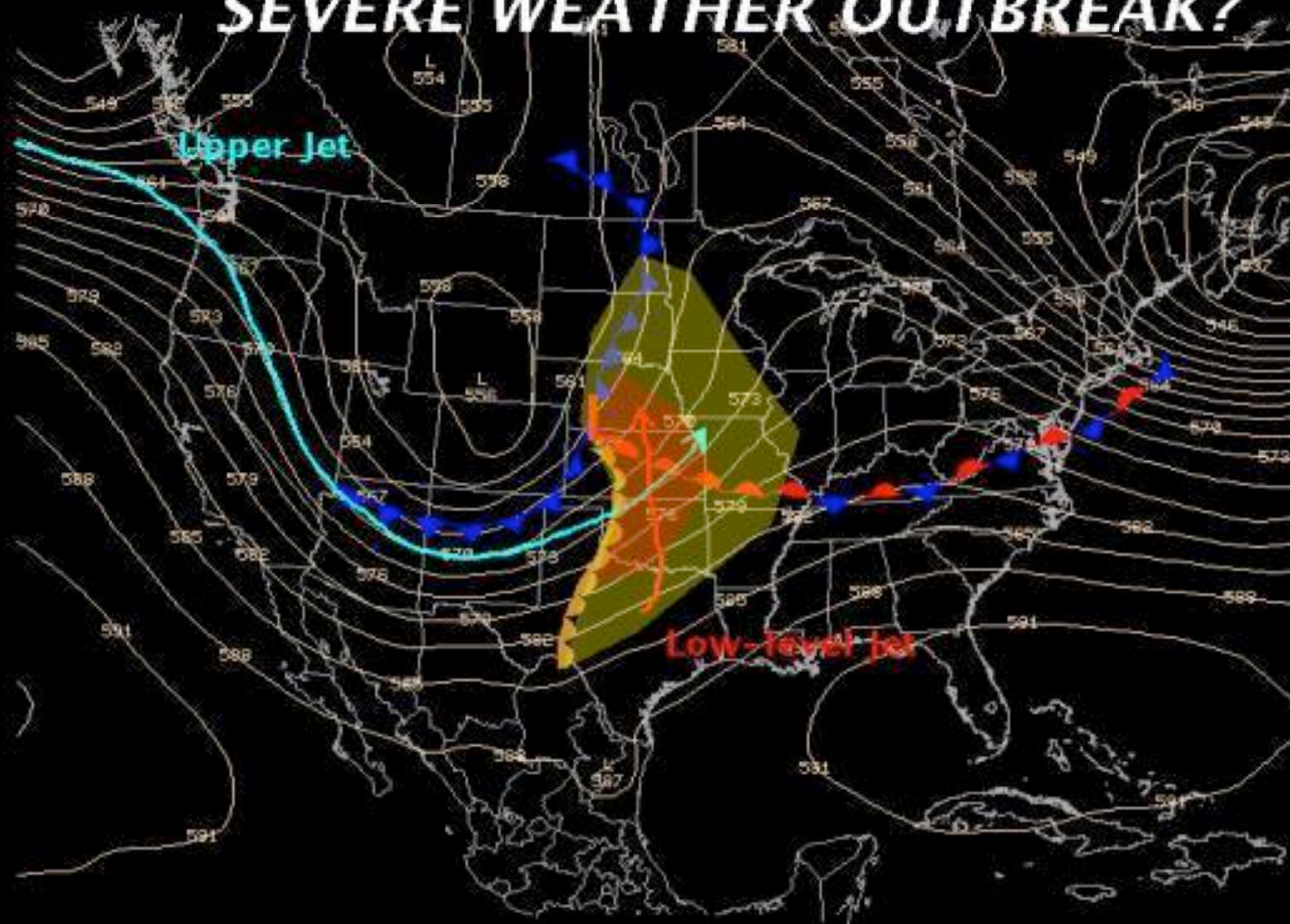
GraphiCast



- **Paints a picture of the most important weather story/stories of the week/day/hour/ minute**
 - Scales vary to describe the story
- **Most popular service on our website!**
- **Other offices have started GraphiCasts**
 - Jackson, Memphis, Atlanta, Nashville, etc

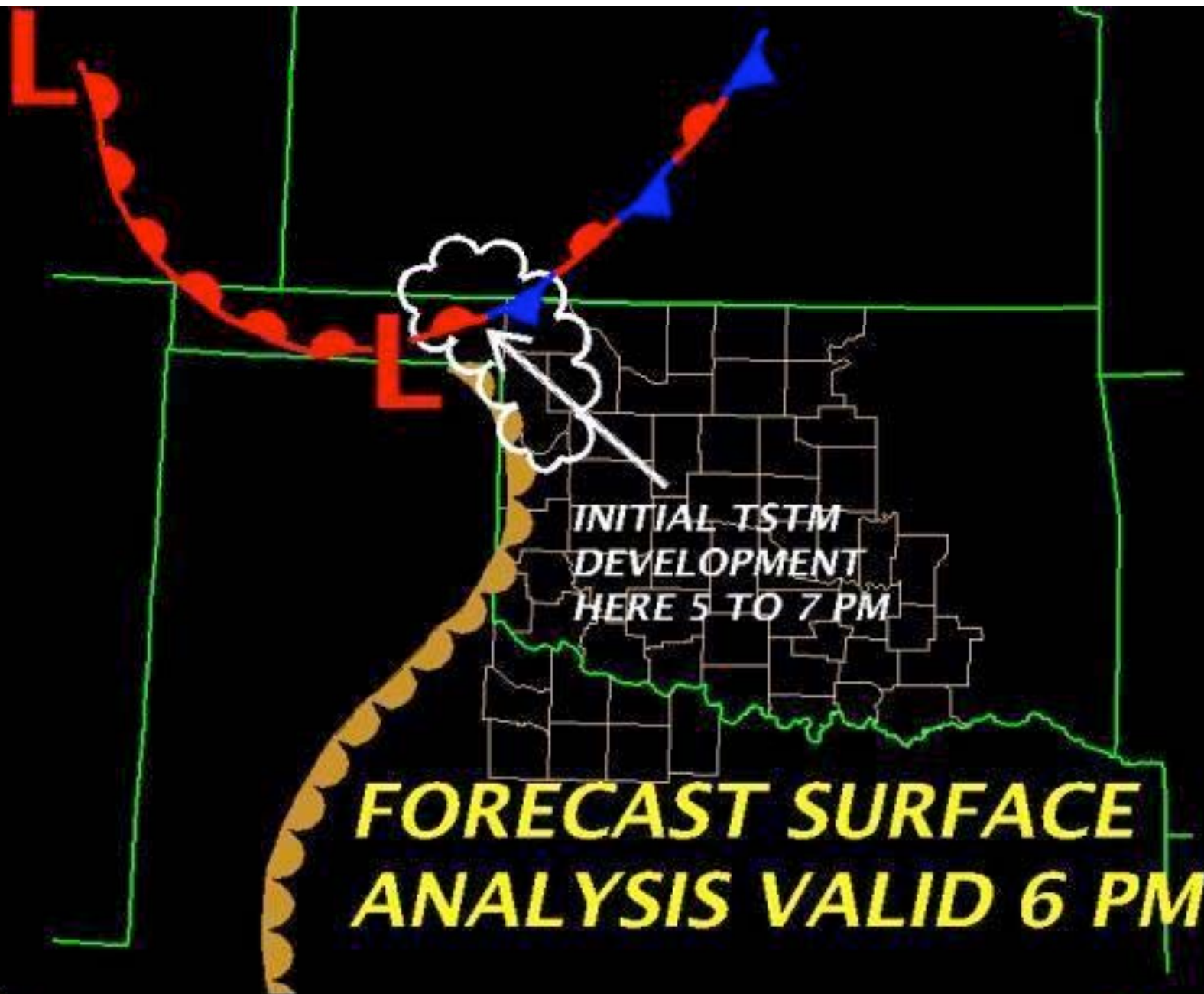


SATURDAY: SEVERE WEATHER OUTBREAK?



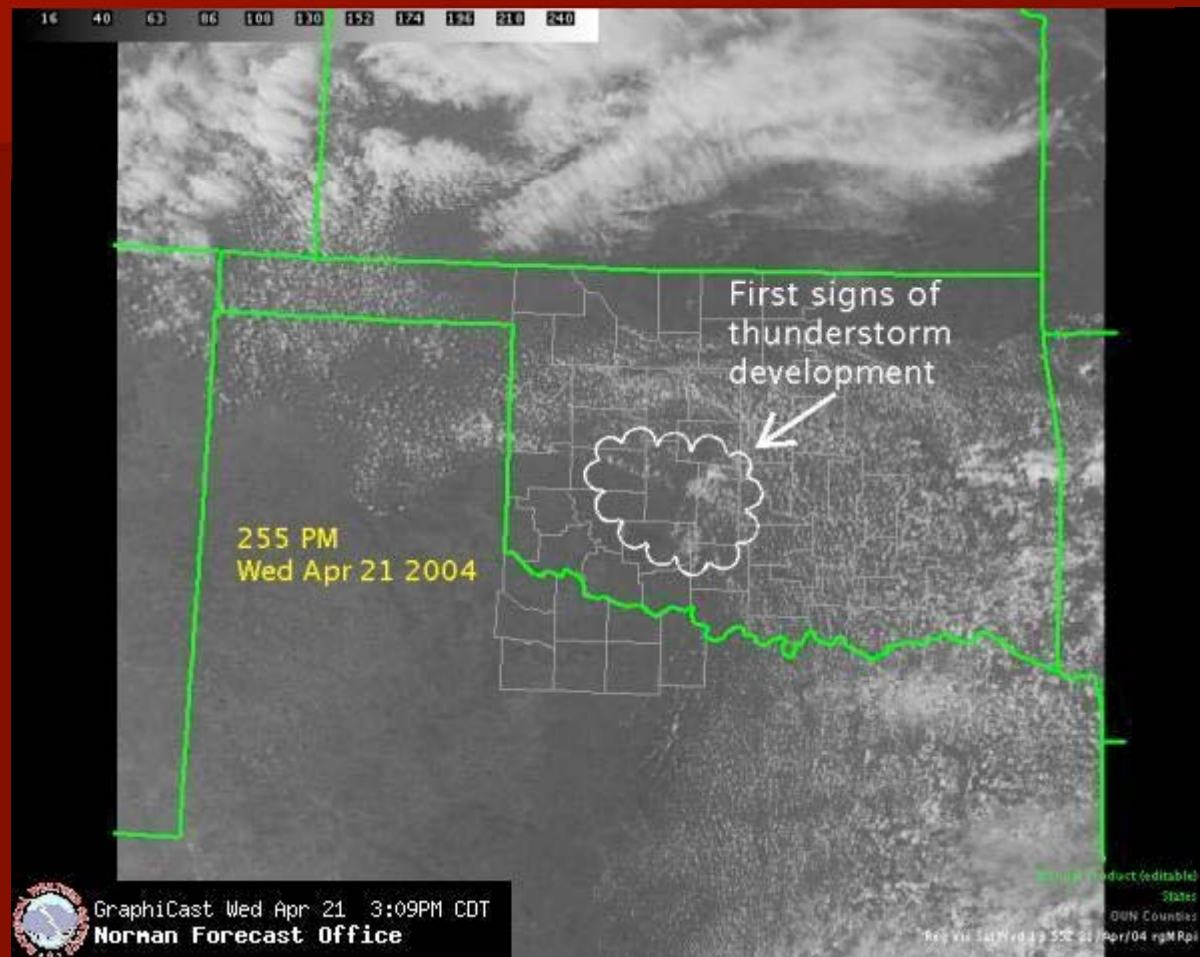
GraphiCast Wed May 26 7:04AM CDT
Nornan Forecast Office

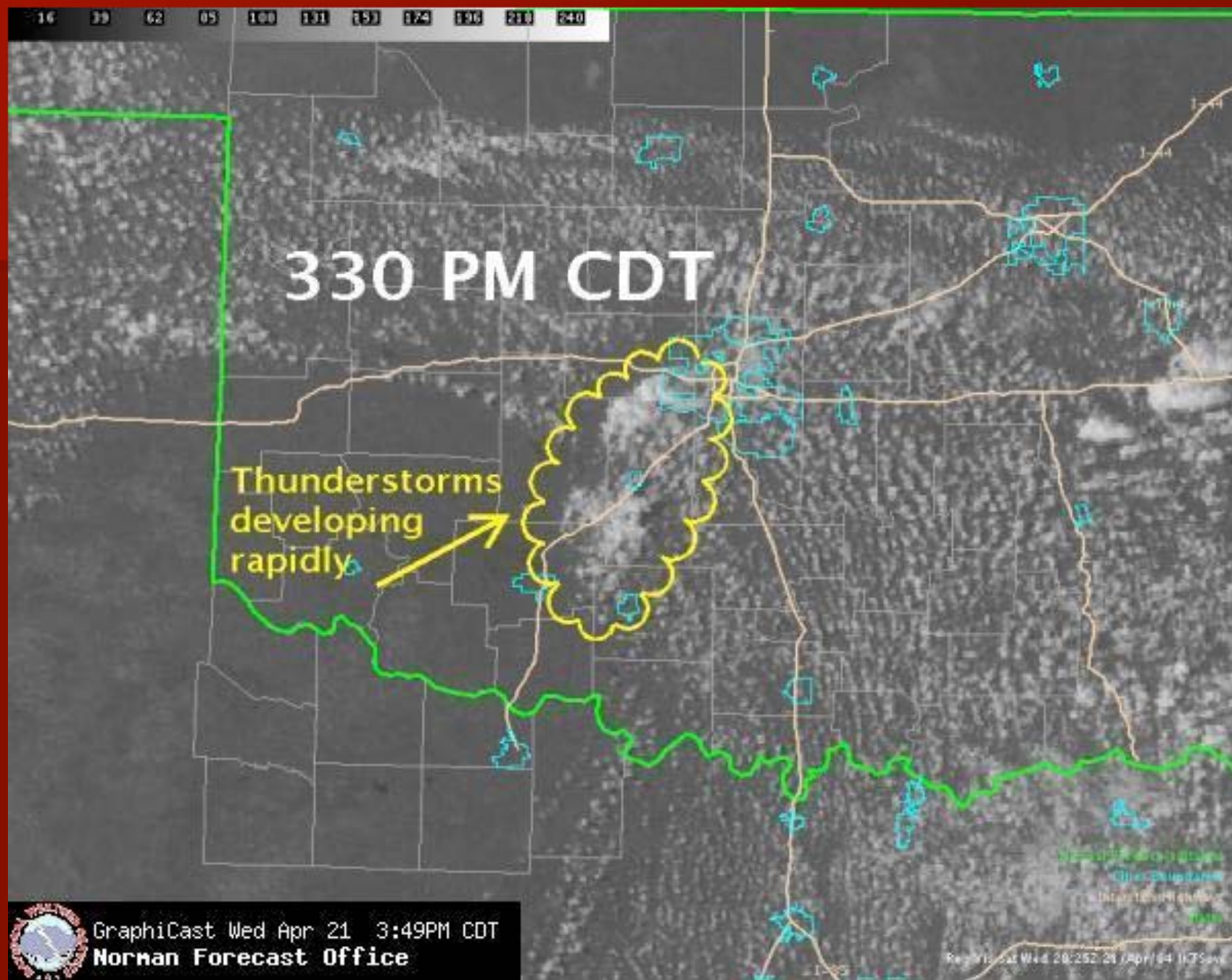
Manual Product (editable)
GFS80 500MB Height -26
States

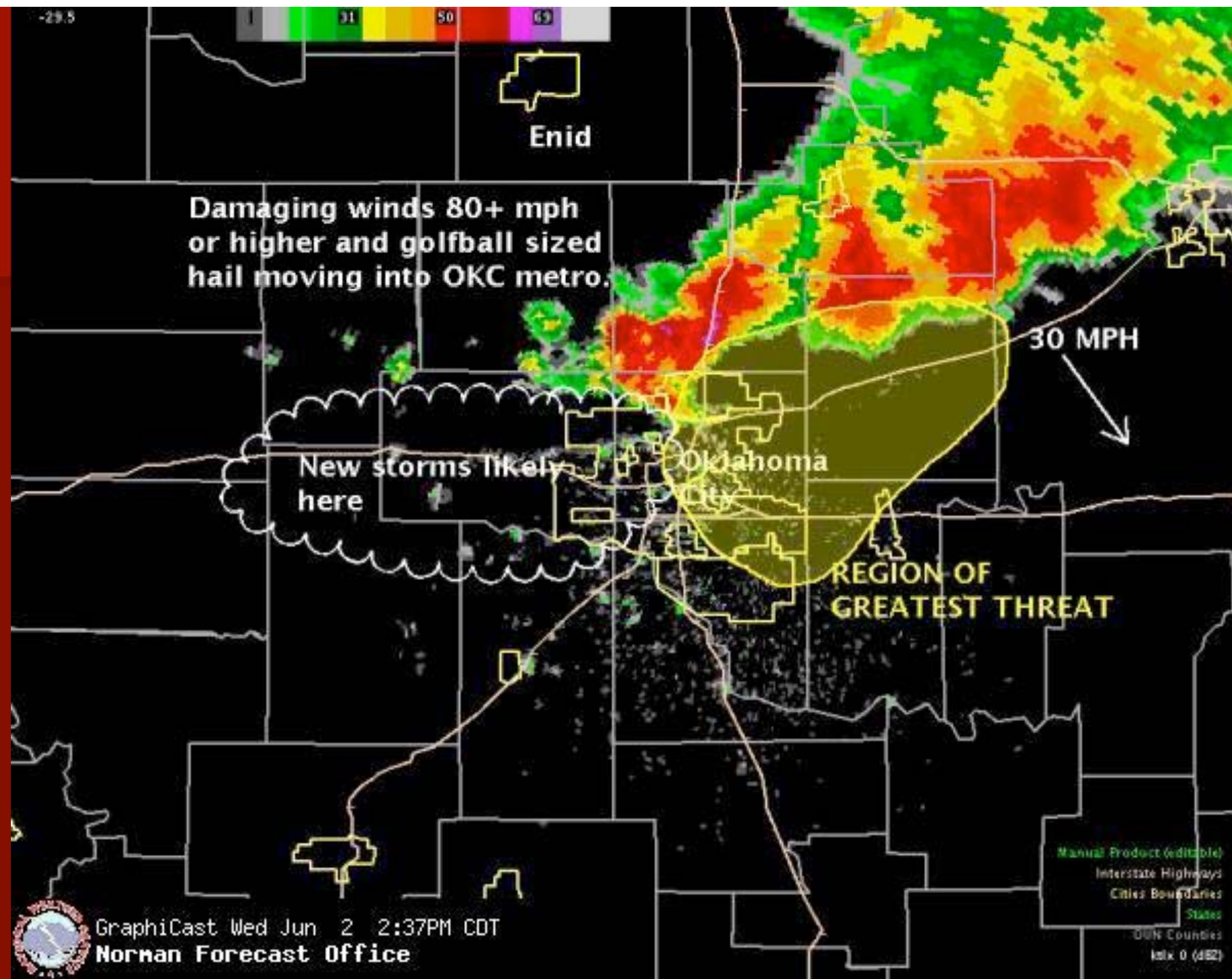


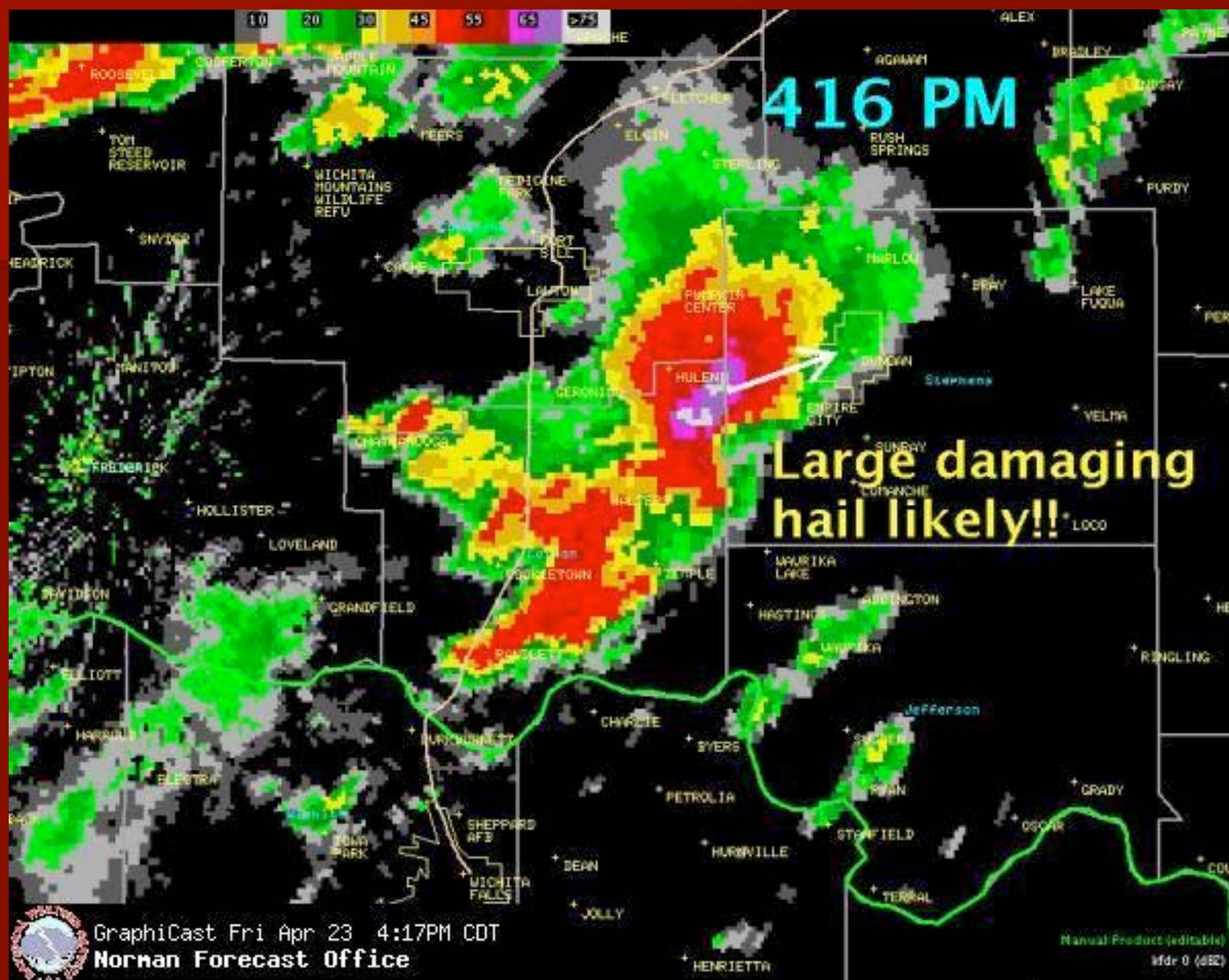
GraphiCast Wed May 12 2:12PM CDT
Norman Forecast Office

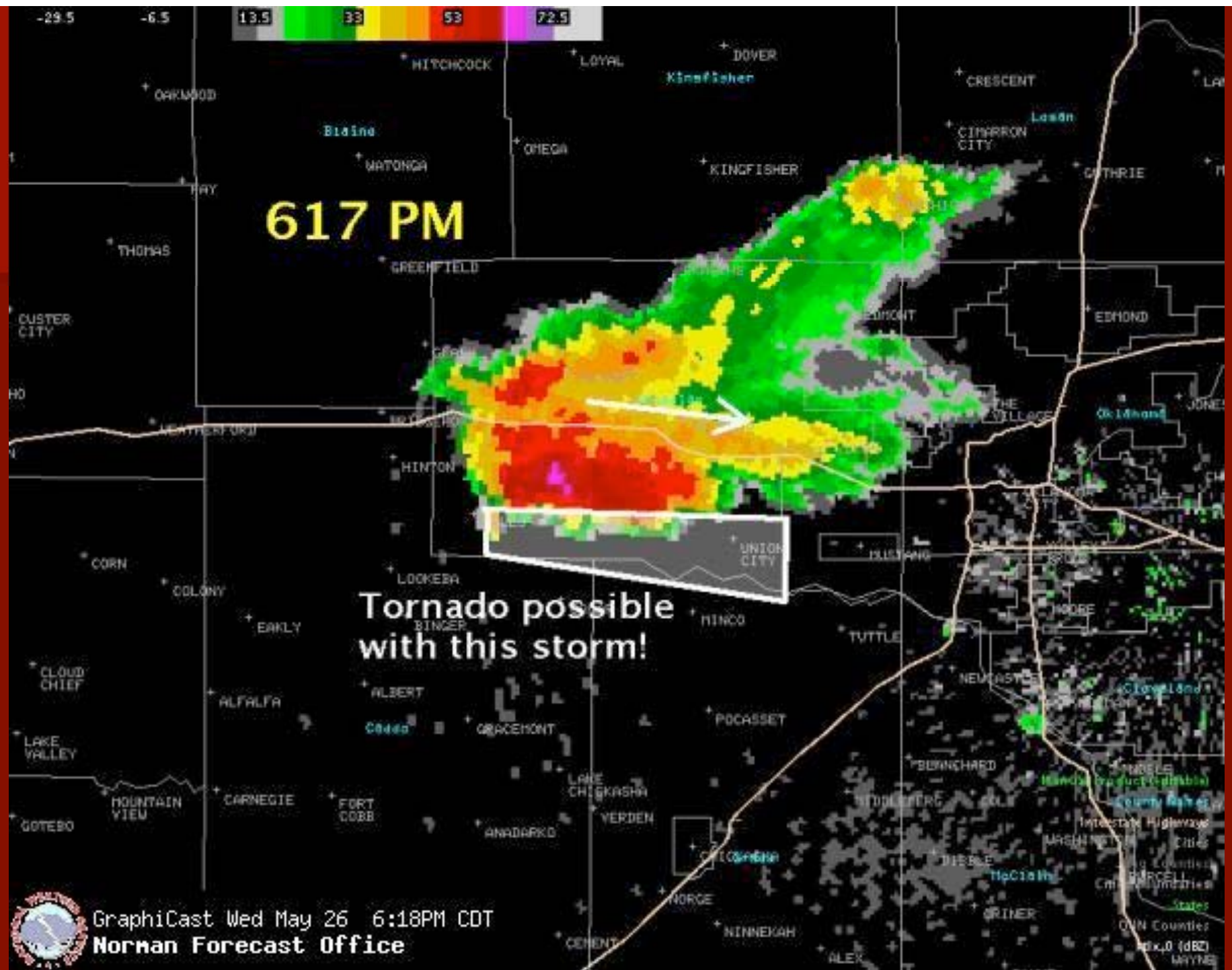
Manual Product (editable)
States
OJN Counties





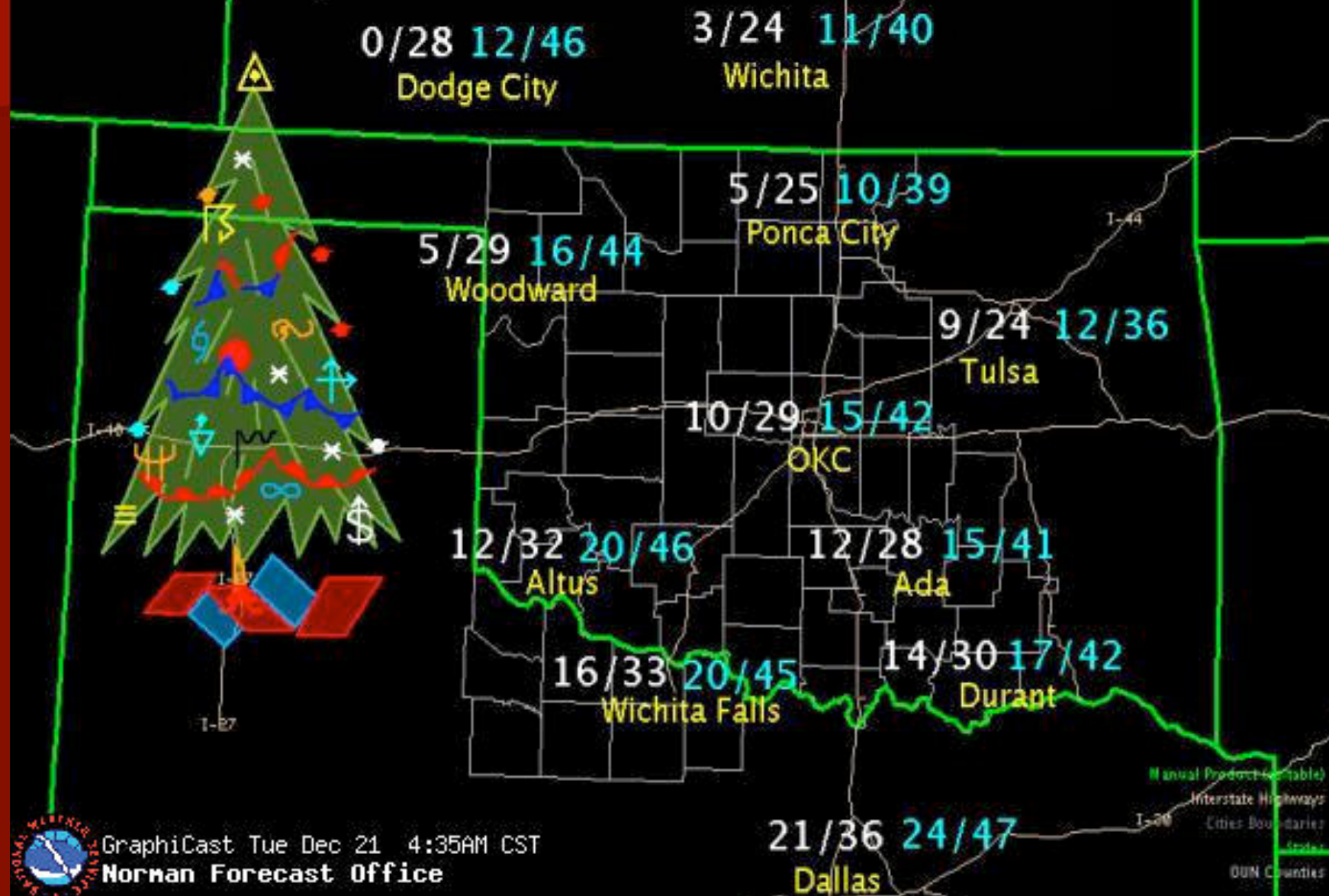






CHRISTMAS 2004 – COLD, DRY

LOWS/HIGHS FRIDAY & SATURDAY



GraphiCast Tue Dec 21 4:35AM CST
Norman Forecast Office


NWS Norman, Oklahoma - GraphiCast - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media

Address http://www.srh.noaa.gov/oun/enhanced.php

Links NWS OUN GraphiCast COD Text SPC Mesonet ST Forum Intranet Google AP Wire NewsOK.com KOCO-TV KFOR-TV KSBI-TV KSWO-TV KFDX-TV KAUZ-TV



Norman, OK

[Original Home Page](#) [Local News](#) [Site Map](#) [Organization](#)

Original Main Page

What's Happening

Past Weather Reports

Current Reports

Weather Overview

Oklahoma Mesonet

Weather Monitor

Watch/Warning Map

Satellite Images

Radar Images

Central Oklahoma

SW OK/NW TX

Northern Oklahoma

What's Expected

Air Quality Statement

Other Advisories

7-day Hazards Outlook

Your Forecast

Forecaster Reasoning

Developing Weather

Local Forecast Maps

National Forecast Maps

What To Do

Monitor Local Weather

Weather Radio

SKYWARN

Review Safety Plans

Heat/Humidity Dangers

Heat Index Chart

Summer Safety Rules

How To Contact Us

Send Weather Reports

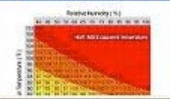
Send Weather Photos

Call, Write or Email Us

Other Information

HEAT WAVE

Heat Wave: A Major Summer Killer (NWS)



Today's Outlook

Partly to mostly sunny, continued mild


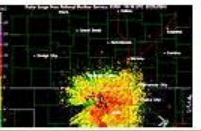
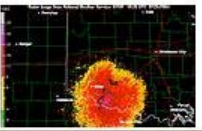
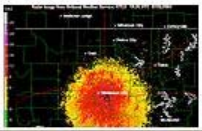
Highs 80-83

Satellite image at 12:15 PM CDT

GraphiCast Mon Jul 26 12:37PM CDT

Norman Forecast Office

Weather Synopsis...Why aren't we sweltering in triple digit heat, like we usually do in late July? The answer is the subtropical ridge. In a normal July (Storm View 1), the ridge becomes centered over the southern Plains, forming a dome of high pressure aloft. Resulting subsidence heats the air, suppresses clouds, and keeps the cooler air to our north. But this July (Storm View 2), the ridge is weaker and much farther south. With westerly winds aloft farther south than usual, disturbances in the flow can deliver cooler air farther south - presently, as far south as the Gulf Coast.



Today's Outlook

Partly to mostly sunny, continued mild

Highs 80-83

Satellite image at 12:15 PM CDT

Extended Outlook

ANOTHER COLD FRONT??

Thickened weather map: Thursday morning, 7 AM

Storm View

WHEN IT'S HOT, IT'S HOT

Subsiding ridge (redlined) sets up area of rising air. Subsidence warms the high center results in hot dry conditions, while fronts stall up north.

Storm View

...WHEN IT'S NOT, IT'S NOT

JULY 2004 PATTERN: Subsiding ridge (redlined) sets up area of rising air. Subsidence warms the high center results in hot dry conditions, while fronts stall up north.

Click on a thumbnail image above to view a larger image.

National Weather Service • Since 1870

Applet aTicker started

Internet

Color Coded Threat Pages

National Weather Service Forecast Office - Norman, Oklahoma - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://www.srh.noaa.gov/oun/>

National Weather Service Forecast Office
Norman, OK

Local News Site Map Organization Search Enter Search Go

Local weather forecast by "City, St" or zip code
City, St Go

Current Hazards
Local Area
National

Current Conditions
Present Weather
Satellite Images
Rivers & Lakes
AHPs
Hydrology

Radar Imagery
Central Oklahoma
SW OK/NW TX
Northern Oklahoma
Nationwide

Forecasts
Local Area
Aviation
Fire Weather

Climate
Local Area
Climate Prediction

Weather Safety
Storm Ready
Preparedness

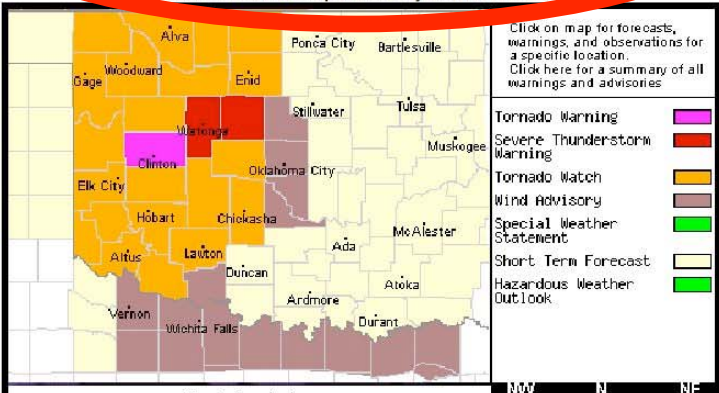
Additional Info
Education

Contact us
Contact Info
FAQ

SEVERE WEATHER UPDATE

Dangerous severe storms are occurring in the area. Follow this link for the latest information.

Select a location on the map below for your latest area forecast



Click on map for forecasts, warnings, and observations for a specific location.
Click here for a summary of all warnings and advisories

Tornado Warning
Severe Thunderstorm Warning
Tornado Watch
Wind Advisory
Special Weather Statement
Short Term Forecast
Hazardous Weather Outlook

Image Created:
Sat, Mar 27th 2004 at 5:09:07 pm CST

Spotter Talks

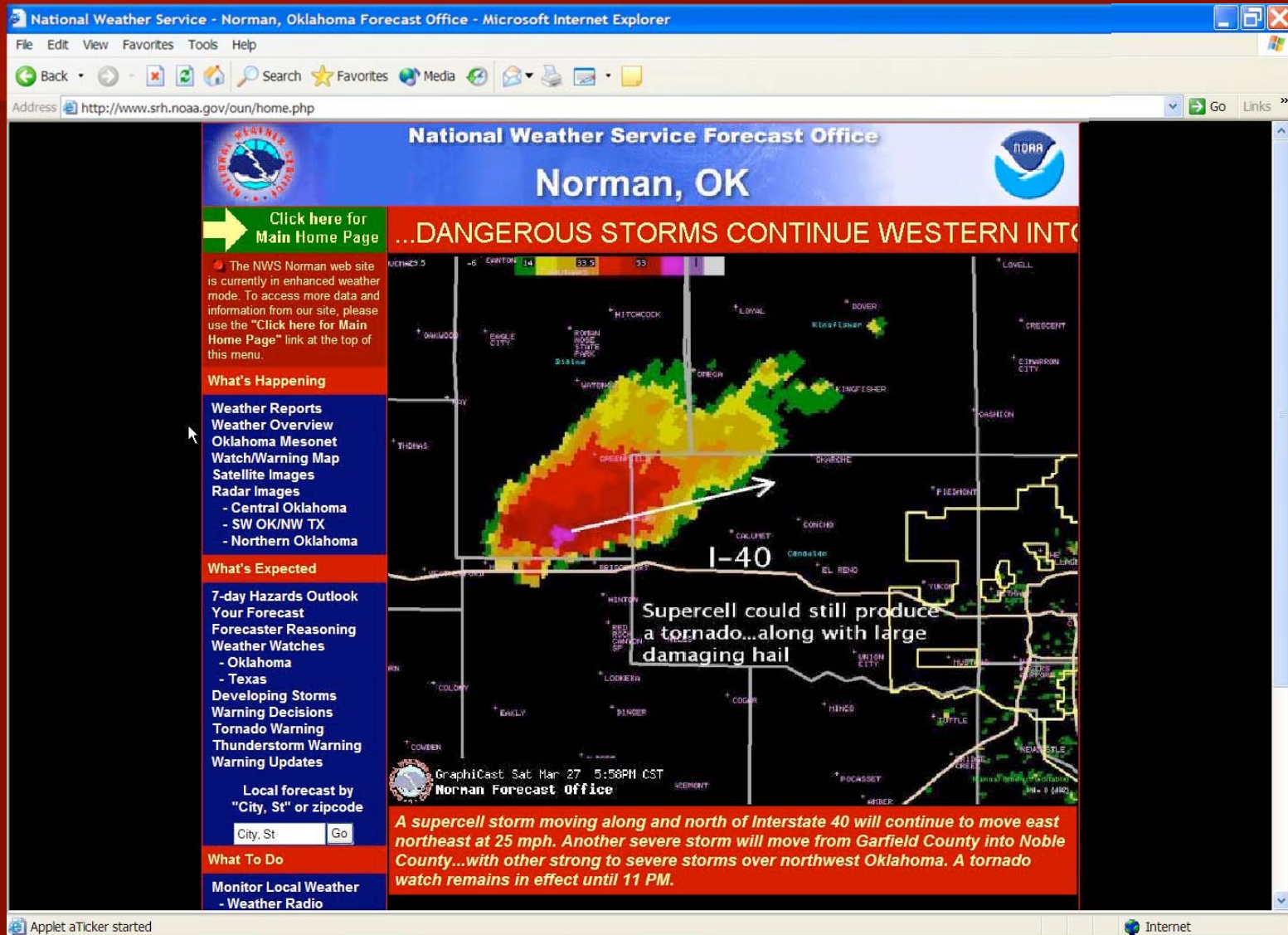
OKLAHOMA SEVERE WEATHER AWARENESS WEEK

All About Tornadoes

National Weather Service - Since 1871

Done Internet

Color Coded Threat Pages



Warning Decision Update

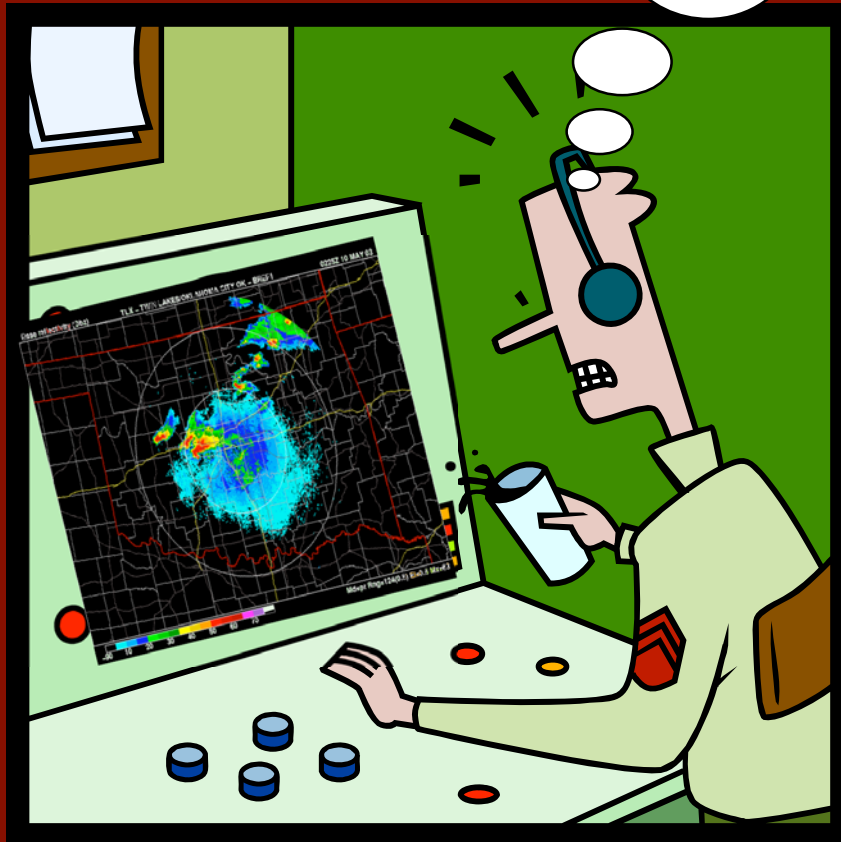
- Designed and implemented at the Norman Forecast Office
- Targeted at the knowledgeable user...
you the emergency managers and media
who need to know the “why” of warnings
(or lack of warnings)

Warning Decision Update

- A short technical explanation of the reasoning behind warning decisions
- Intended for emergency management and broadcast media partners
- Shares information being discussed in the WFO
- Can help make the overall message to the public more consistent
- Helps decision makers do their job

Warning Decision Update

Why haven't they issued a warning??



- Tell you what we know
- Gives the reader a front row seat in the warning operations area

AREA WEATHER UPDATE
NATIONAL WEATHER SERVICE NORMAN OK
425 PM CDT WED OCT 6 2004

...WARNING DECISION UPDATE...

...THIS WARNING DECISION UPDATE CONCERNS SOUTHWEST OKLAHOMA...

LINE/CLUSTER OF CONVECTIVE CELLS NORTHEAST OF LAWTON IS VERY LOW TOPPED (20 K FT) AND ARE ASSOCIATED WITH REMAINS OF MESOSCALE CONVECTIVE VORT MAX (MCV) LEFT OVER FROM STORMS IN WEST TEXAS EARLIER. ENVIRONMENT IS SUPPORTIVE OF VERY BRIEF FUNNEL CLOUDS OR PERHAPS A WEAK TORNADO... BUT **DO NOT BELIEVE CONDITIONS WILL SUPPORT WELL ORGANIZED MESOCYCLONE TYPE TORNADOES** OR OTHER FORMS OF SEVERE WEATHER. RECENT RADAR TRENDS SUGGEST CELLS ARE BECOMING INCREASINGLY LESS ORGANIZED AS THEY MOVE INTO MORE STABLE AIR. WILL CONTINUE TO MONITOR TRENDS IN Z/V DATA FROM KFDR/KTLX FOR ANY SIGNS CONTRARY TO THIS EXPECTED EVOLUTION.

\$\$

ANDRA

WARNING DECISION UPDATE
NATIONAL WEATHER SERVICE NORMAN OK
450 PM CDT THU MAY 8 2003

THIS WARNING DECISION UPDATE CONCERNS CENTRAL OKLAHOMA.

...UPDATE TO LAST MESSAGE...**TERMINAL DOPPLER** IN NORTHWEST NORMAN SHOWS STRONG SUBCLOUD CONVERGENCE...OFTEN PRECURSOR TO TORNADOGENESIS...IS BETWEEN TUTTLE AND MCCLAIN COUNTY LINE...


KTLX Z AND V DATA INDICATE STORM NEAR TUTTLE IS CLASSIC SUPERCELL... TENDING TO INGEST SMALLER CELLS ON RIGHT FLANK. **EXPECT SLIGHT RIGHT TURN IS UNDERWAY** AND BWER ALOFT IS GROWING.

MOVING TORNADO WARNING ACROSS METRO AREA NOW BASED ON CONTINUED ORGANIZATIONAL TRENDS IN Z/V FROM KTLX. NO BONAFIDE TVS YET...BUT AT TIMES SEE SIGNIFICANT SUBCLOUD CONVERGENCE IN ADVANCE OF RFD.

THREAT OF GIANT HAIL ALSO GROWING IN SOUTHWEST METRO ALONG AND NORTH OF MESO TRACK.

\$\$

ANDRA



WARNING DECISION UPDATE
NATIONAL WEATHER SERVICE NORMAN OK
520 PM CDT FRI MAY 9 2003

THIS WARNING DECISION UPDATE CONCERNS WESTERN NORTH TEXAS AND I44
CORRIDOR OF OKLAHOMA.

...UPDATE...LOGAN CO. CELL NOW SHOWS CLASSIC SUPERCELL WITH VERY DEEP
CORE AND STRONG MID-LEVEL MESO. THAT...COUPLED WITH CYCLONIC
CONVERGENCE AND LOW-LEVELS AND Z STRUCTURE **WARRANTS TORNADO**
WARNING. WILL WATCH EVOLUTION OF RFD NEXT 20 MIN.

ALSO WATCHING CLOSELY EVOLUTION OF CELL WEST OF LAWTON. CELLS
DEEPENING RAPIDLY WITH 50 DBZ RETURNS NEAR 30 KFT.

CELLS DEVELOPING RAPIDLY ON RETREATING DRYLINE.

BAYLOR COUNTY STORM GONE.
\$\$



409 PM
SEVERE
THUNDERSTORM
WARNING

DOPPLER RADAR DETECTED A SEVERE THUNDERSTORM 9 MILES SOUTHWEST OF POCASSET...MOVING NORTHEAST AT 35 MPH.

413 PM
SIGNIFICANT
WEATHER
ADVISORY

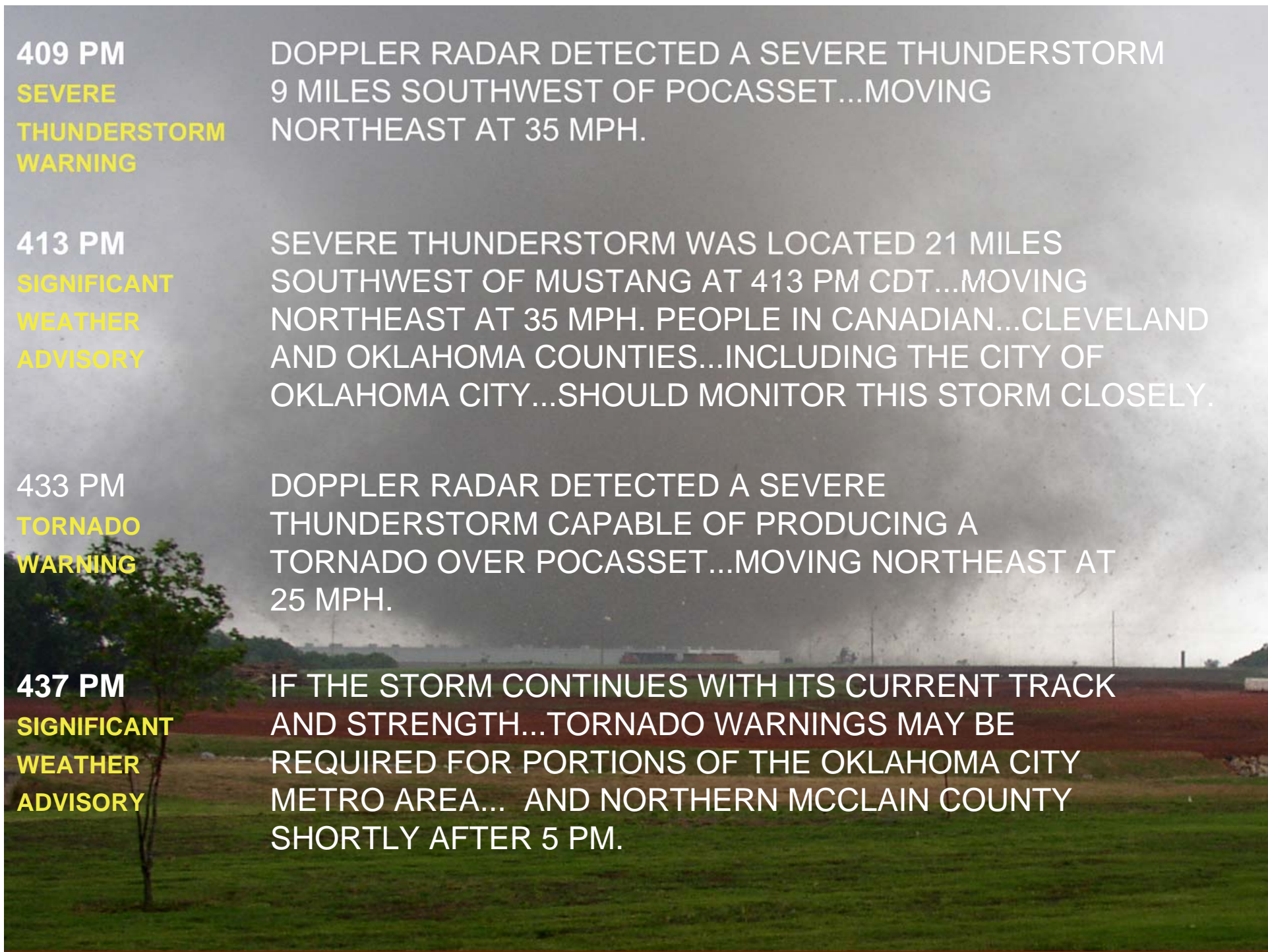
SEVERE THUNDERSTORM WAS LOCATED 21 MILES SOUTHWEST OF MUSTANG AT 413 PM CDT...MOVING NORTHEAST AT 35 MPH. PEOPLE IN CANADIAN...CLEVELAND AND OKLAHOMA COUNTIES...INCLUDING THE CITY OF OKLAHOMA CITY...SHOULD MONITOR THIS STORM CLOSELY.

433 PM
TORNADO
WARNING

DOPPLER RADAR DETECTED A SEVERE THUNDERSTORM CAPABLE OF PRODUCING A TORNADO OVER POCASSET...MOVING NORTHEAST AT 25 MPH.

437 PM
SIGNIFICANT
WEATHER
ADVISORY

IF THE STORM CONTINUES WITH ITS CURRENT TRACK AND STRENGTH...TORNADO WARNINGS MAY BE REQUIRED FOR PORTIONS OF THE OKLAHOMA CITY METRO AREA... AND NORTHERN MCCLAIN COUNTY SHORTLY AFTER 5 PM.



446 PM
WARNING
DECISION
UPDATE

MOVING TORNADO WARNING ACROSS METRO AREA NOW
BASED ON CONTINUED ORGANIZATIONAL TRENDS IN Z/V
FROM KTLX. NO BONAFIDE TVS YET...BUT AT TIMES SEE
SIGNIFICANT SUBCLOUD CONVERGENCE IN ADVANCE OF RFD.

449 PM
TORNADO
WARNING

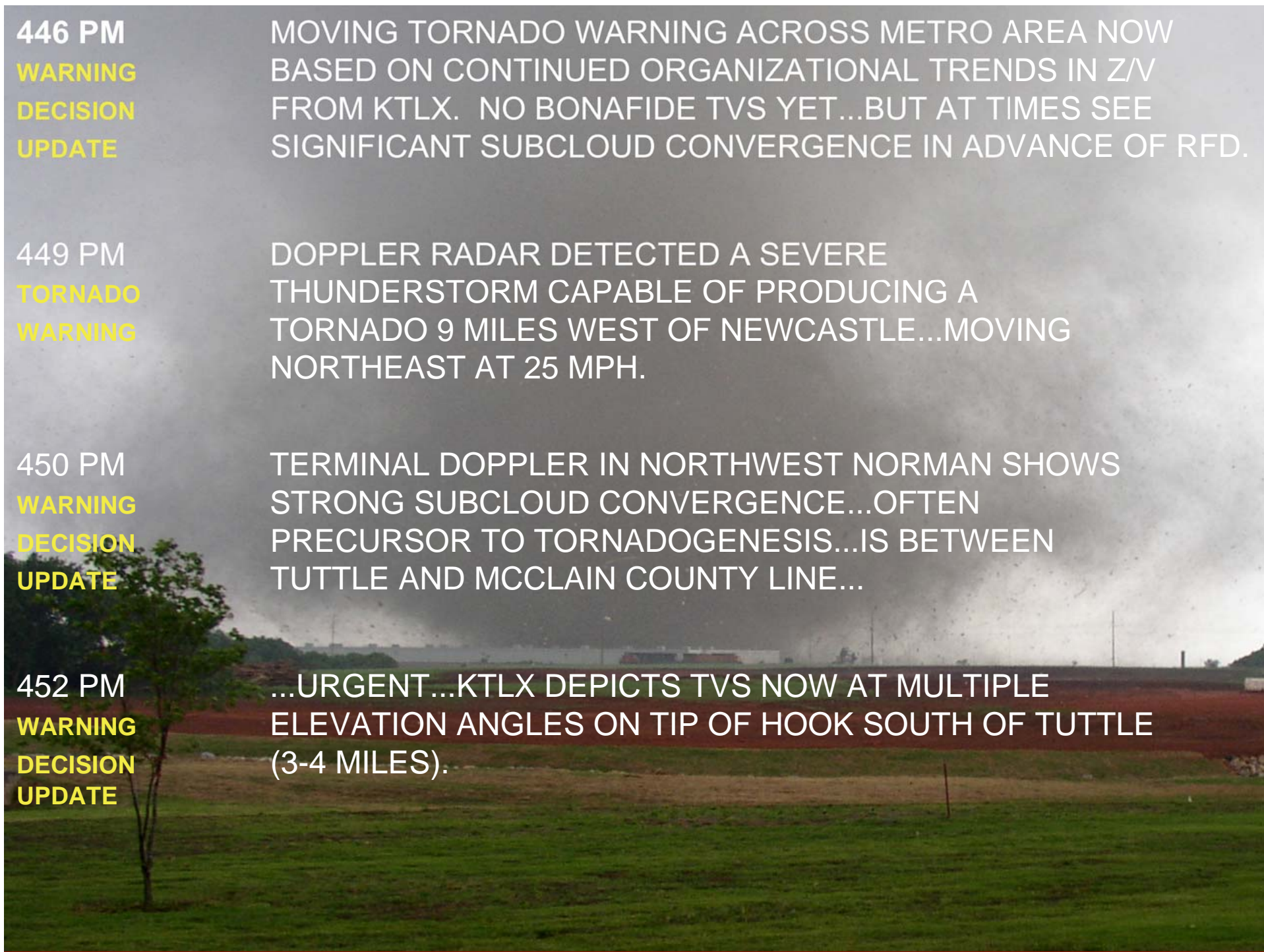
DOPPLER RADAR DETECTED A SEVERE
THUNDERSTORM CAPABLE OF PRODUCING A
TORNADO 9 MILES WEST OF NEWCASTLE...MOVING
NORTHEAST AT 25 MPH.

450 PM
WARNING
DECISION
UPDATE

TERMINAL DOPPLER IN NORTHWEST NORMAN SHOWS
STRONG SUBCLOUD CONVERGENCE...OFTEN
PRECURSOR TO TORNADOGENESIS...IS BETWEEN
TUTTLE AND MCCLAIN COUNTY LINE...

452 PM
WARNING
DECISION
UPDATE

...URGENT...KTLX DEPICTS TVS NOW AT MULTIPLE
ELEVATION ANGLES ON TIP OF HOOK SOUTH OF TUTTLE
(3-4 MILES).



454 PM

**SEVERE
WEATHER
STATEMENT**

...TORNADO WARNING CONTINUES...
DOPPLER RADAR DETECTED A DEVELOPING TORNADO 3
MILES SOUTH OF TUTTLE...
TAKE TORNADO PRECAUTIONS IMMEDIATELY!

459 PM

**SEVERE
METRO WEATHER
STATEMENT**

THIS IS A VERY DANGEROUS SITUATION. PERSONS IN
SOUTHERN PORTIONS OF THE OKLAHOMA CITY
AREA...INCLUDING MOORE...NEWCASTLE...AND
NORTHERN NORMAN SHOULD TAKE THEIR TORNADO
PRECAUTIONS IMMEDIATELY!

500 PM

**WARNING
WEST
DECISION
UPDATE**

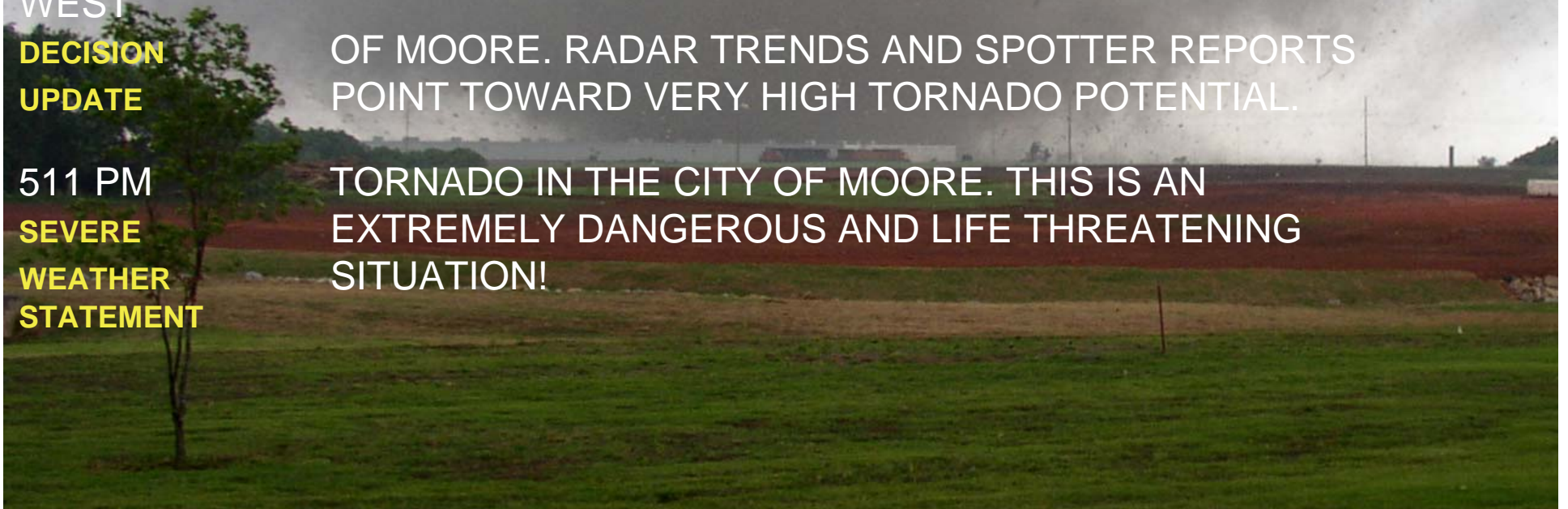
STRONG CONVERGENCE SIGNATURE WITH RFD AND
INFLOW NOW MOVING INTO SOUTHWEST METRO

OF MOORE. RADAR TRENDS AND SPOTTER REPORTS
POINT TOWARD VERY HIGH TORNADO POTENTIAL.

511 PM

**SEVERE
WEATHER
STATEMENT**

TORNADO IN THE CITY OF MOORE. THIS IS AN
EXTREMELY DANGEROUS AND LIFE THREATENING
SITUATION!



Summary

- Information is the National Weather Service's commodity
- Information goes far beyond the traditional text "products"
- Provide information to key weather information disseminators
- Continuous flow of information for all the weather, all the time

Thank You!

Rick Smith
National Weather Service
Norman Forecast Office

richard.smith@noaa.gov

